Service Schematics

NOKIA N770

SU-18

Introduction

IMPORTANT:

This document is intended for use by authorized NOKIA service centers only.

“Service Schematics” was created with focus on customer care.
The purpose of this document is to provide further technical repair information for NOKIA mobile phones on Level 3/4 service activities.
It contains additional information such as e.g. “Component finder”, “Frequency band table” or “Antenna switch table”.
The “Signal overview” page gives a good and fast overview about the most important signals and voltages on board.
Saving process time and improving the repair quality is the aim of this document.
It is to be used additionally to the service manual and other training or service information such as Service Bulletins.

All measurements were made using following equipment:

Nokia repair SW	:	Phoenix version 2005.20.7.98
Oscilloscope	:	Fluke PM 3380A/B
Spectrum Analyzer	:	Advantest R3162 with an analog probe
RF-Generator / GSM Tester	:	Rhode & Schwarz CMU 200
Multimeter	:	Fluke 73 Series II

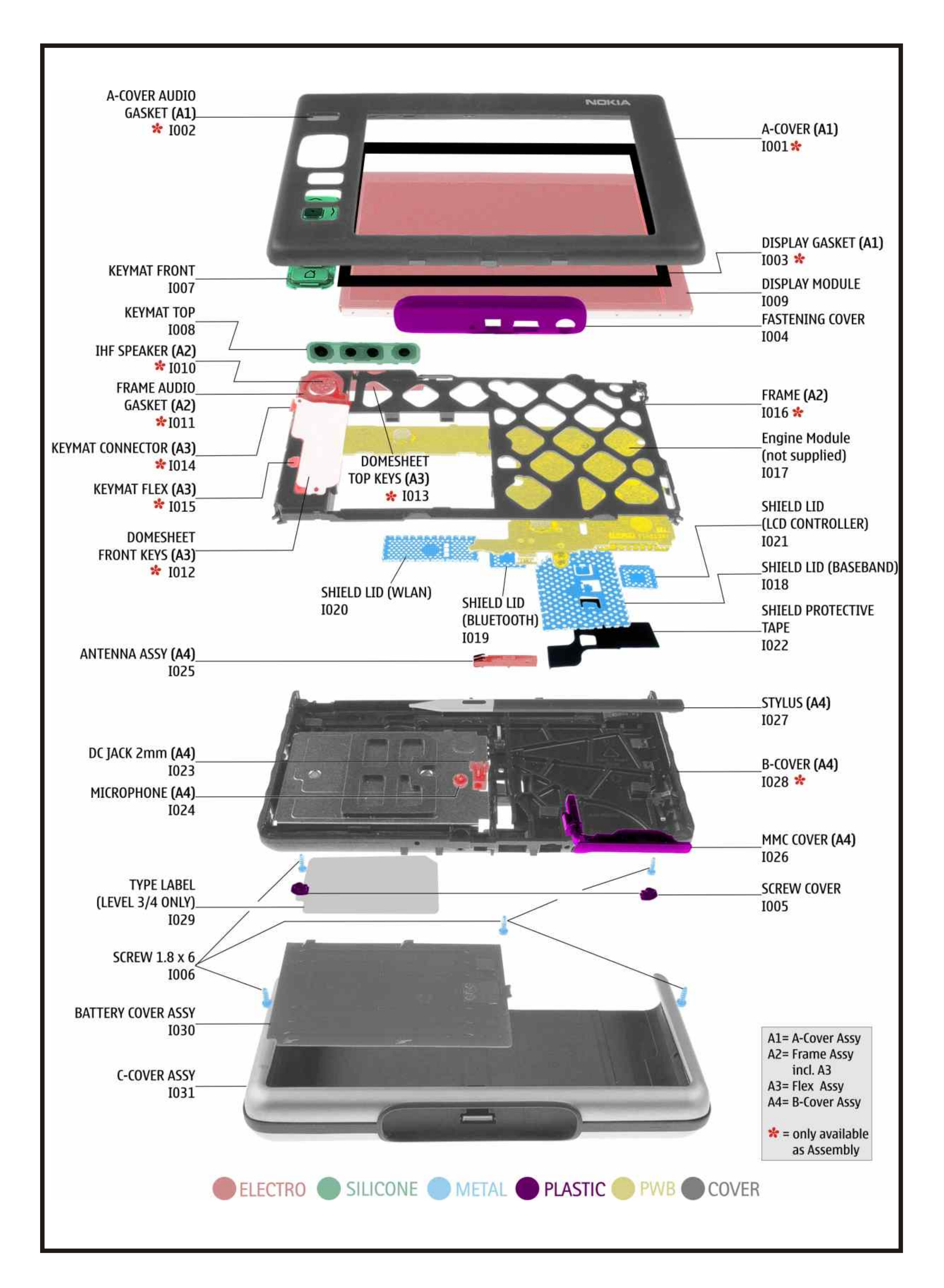
While every endeavour has been made to ensure the accuracy of this document, some errors may exist. If the reader finds any errors, NOKIA should be notified in writing.

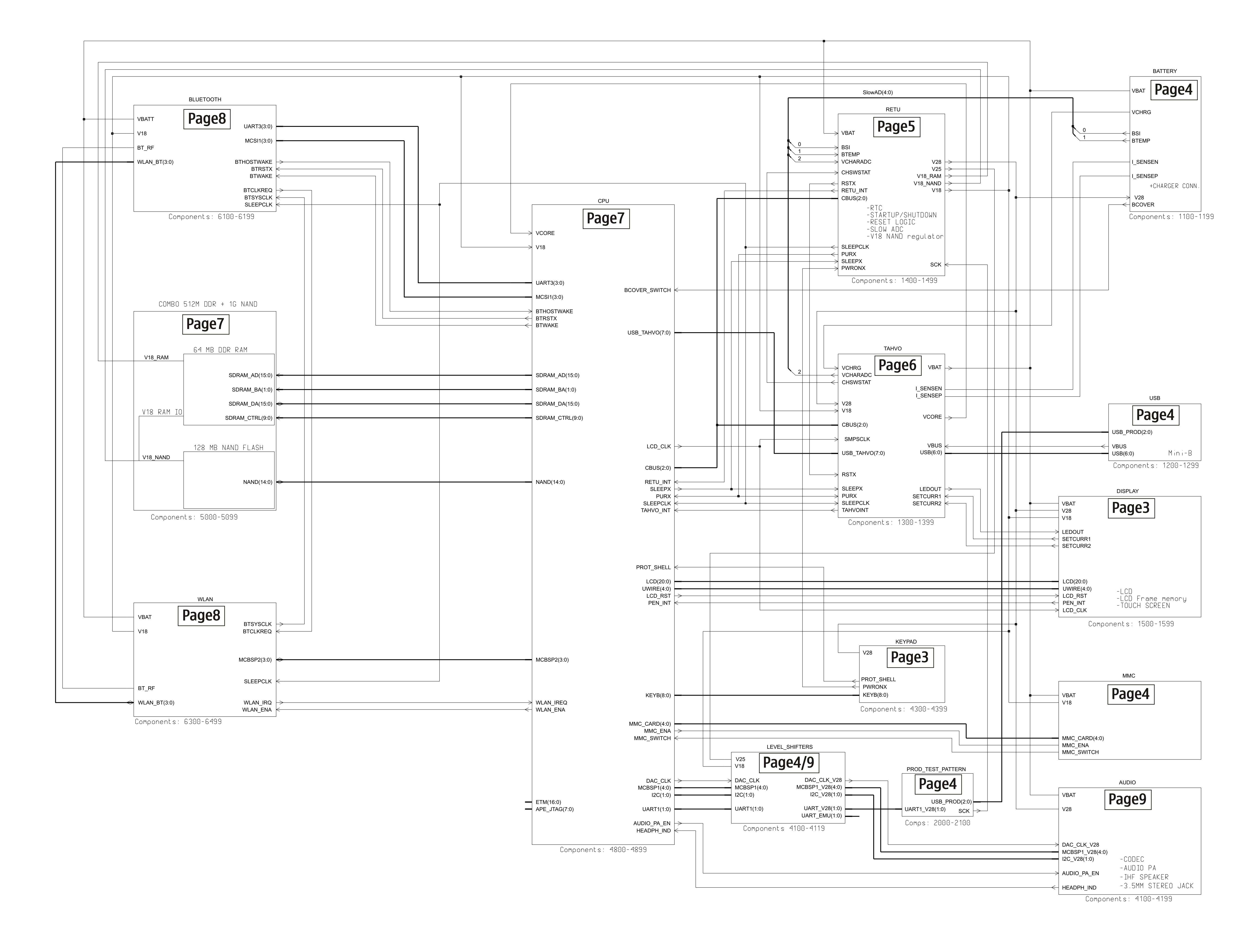
Please send E-Mail to: training.sace@nokia.com

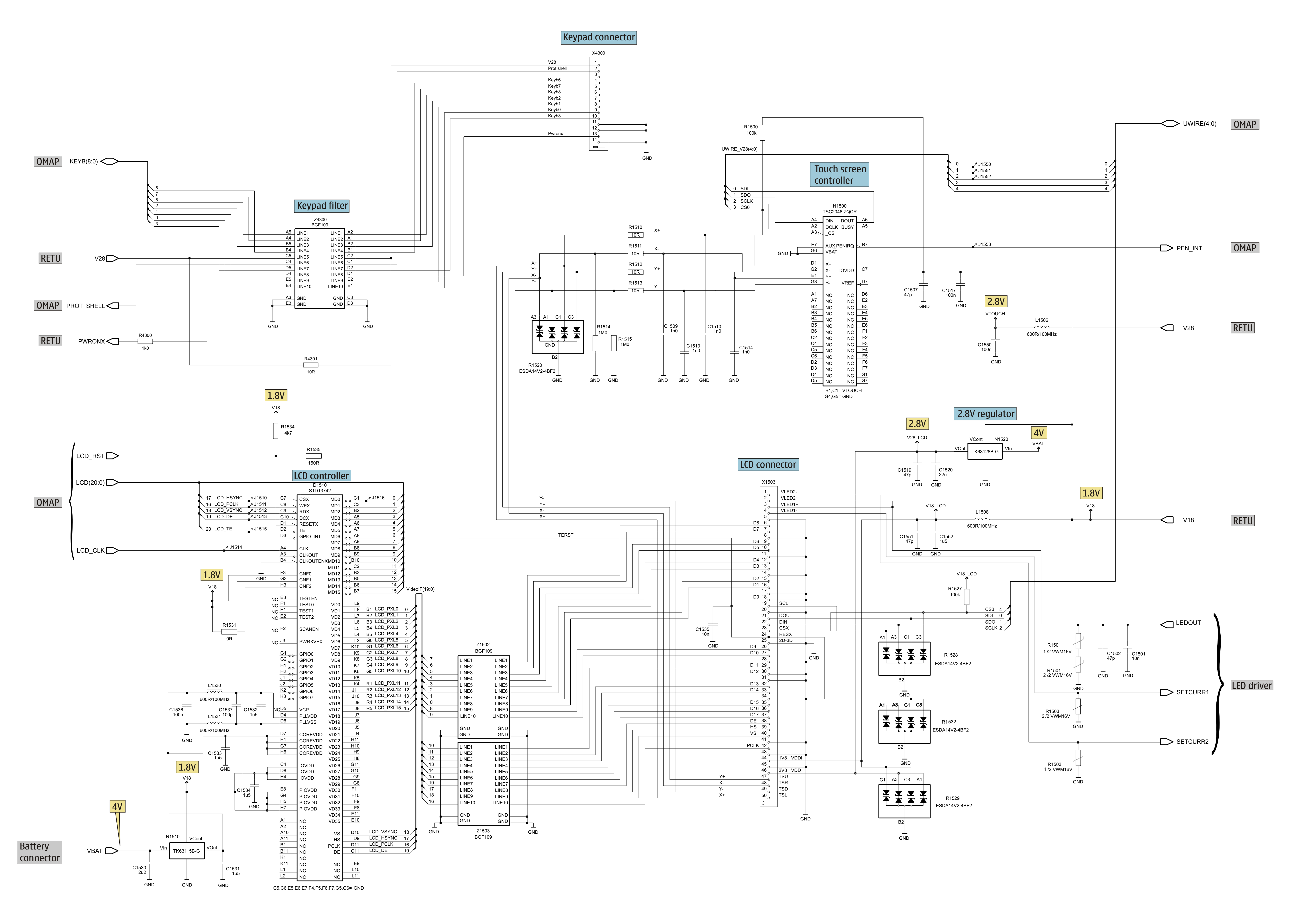


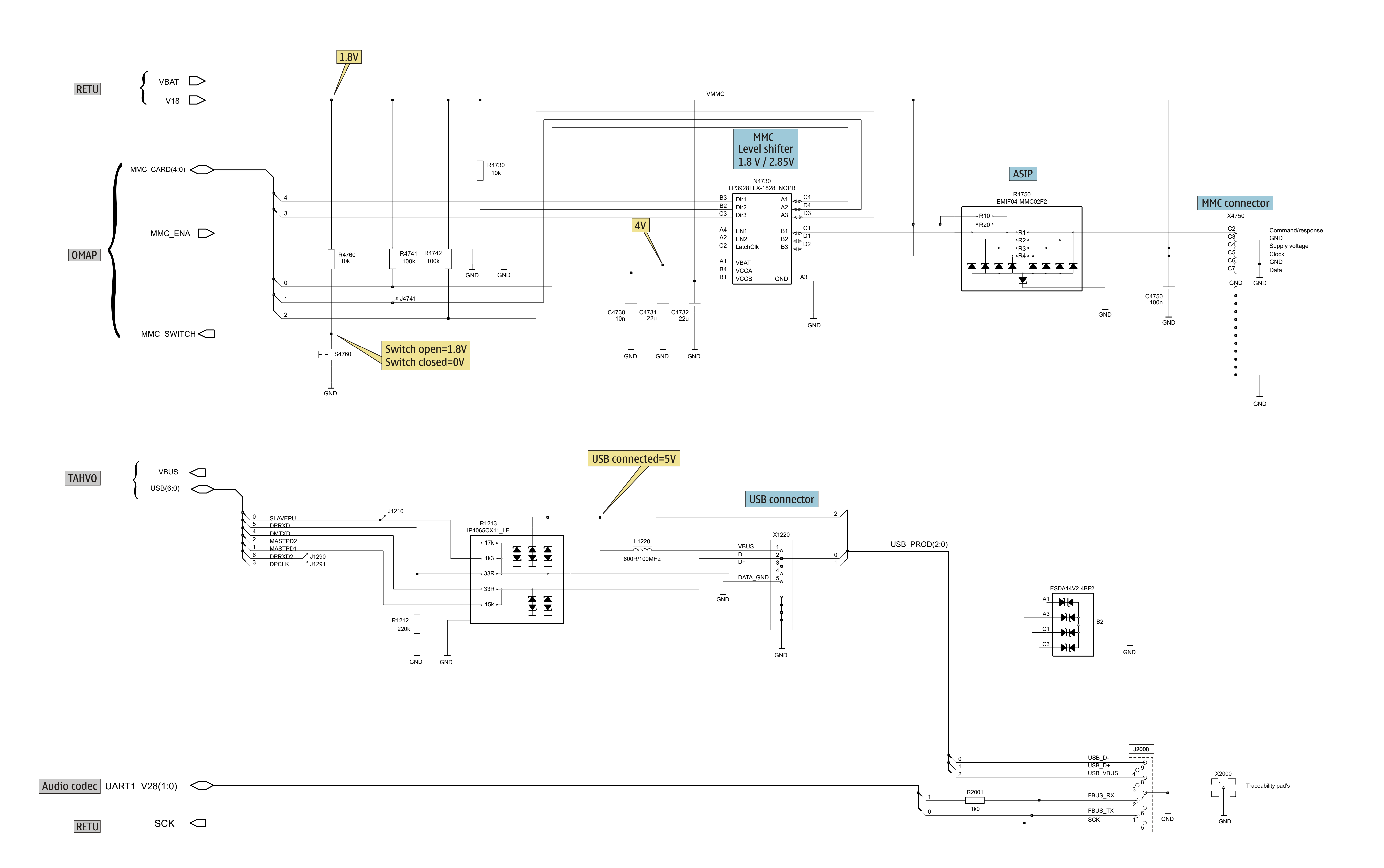
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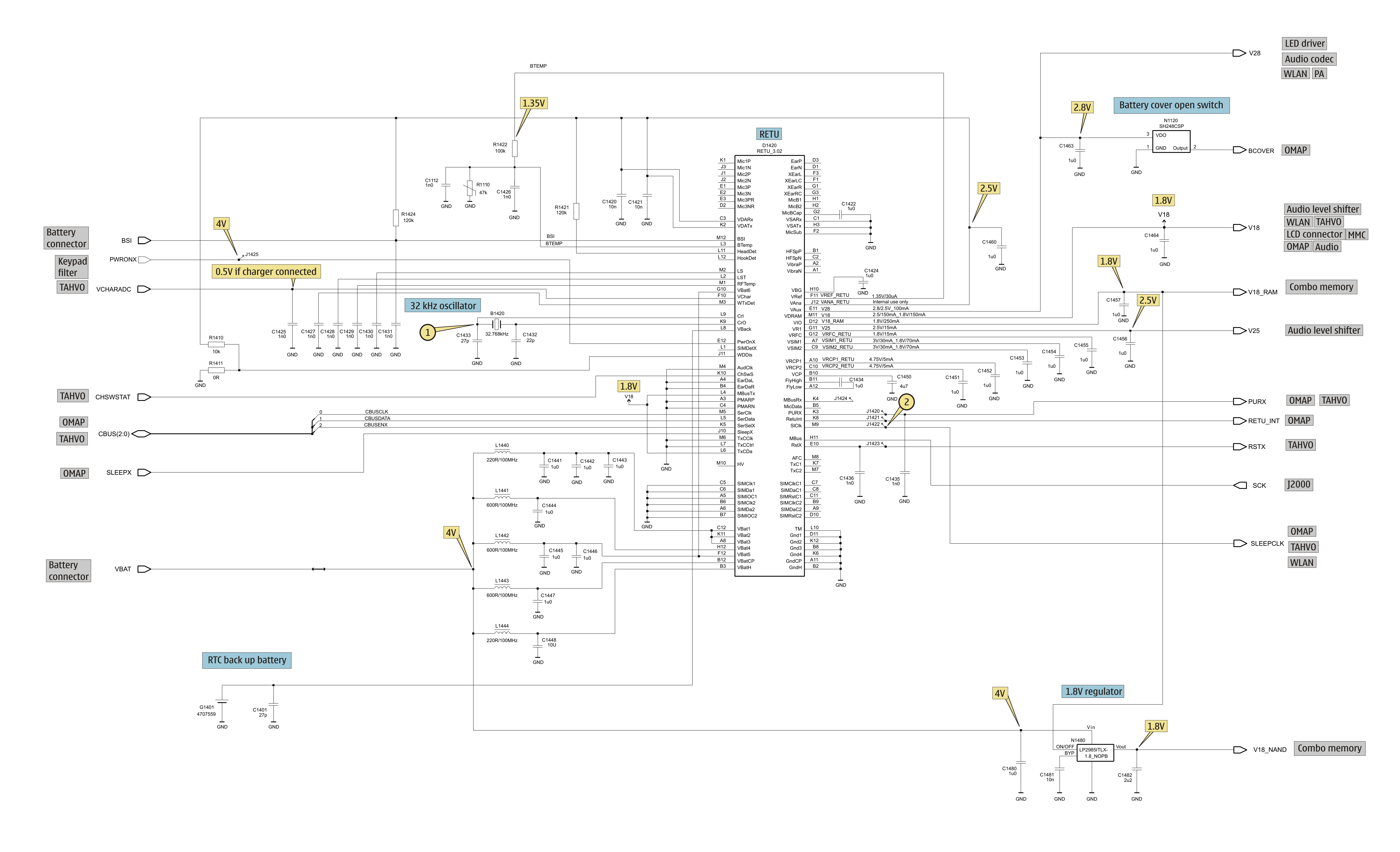


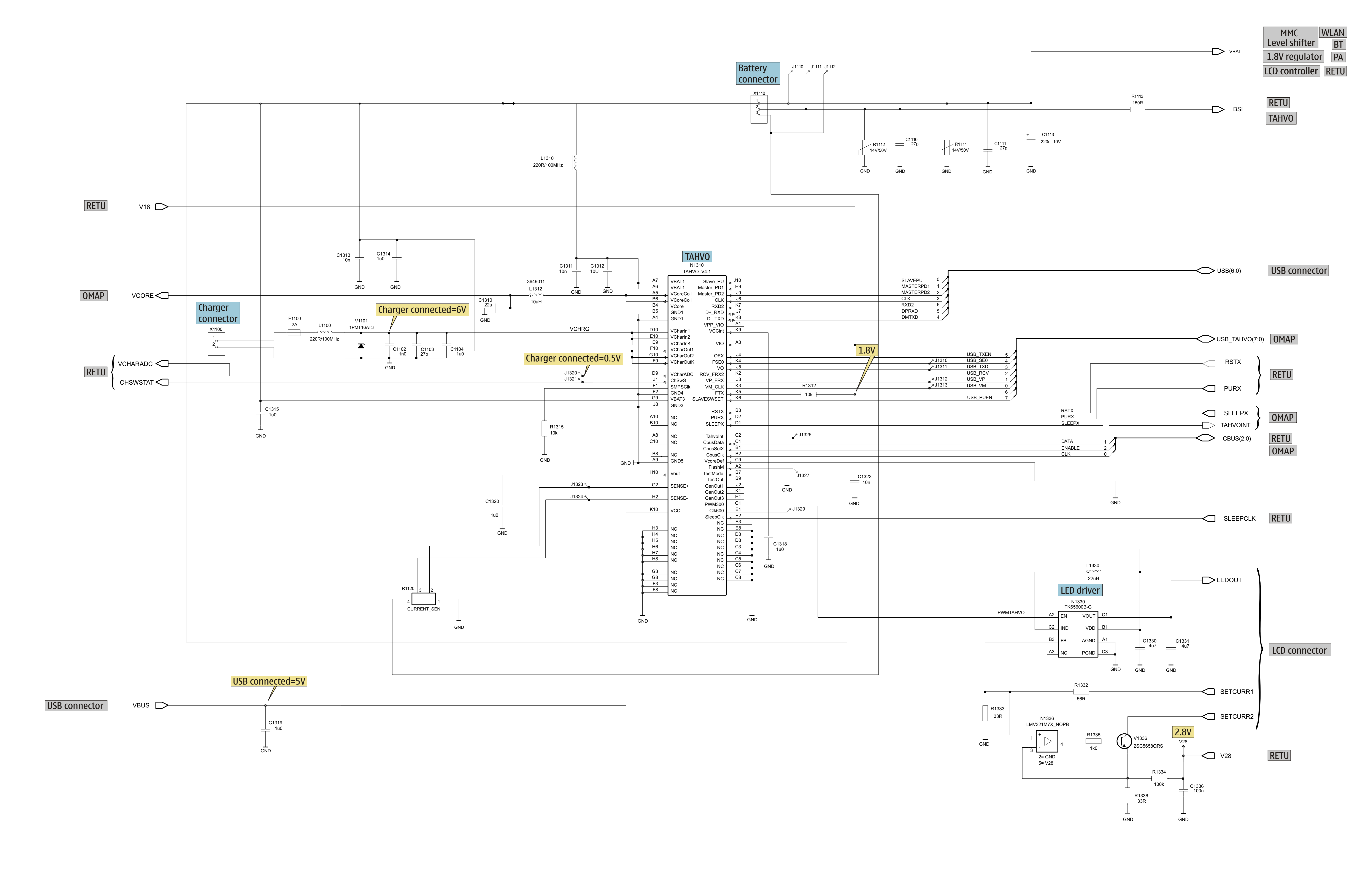

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BGF109
Z1503
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TERST
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R1514
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R1515
1M0
R1520
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C1552
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R1527
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C1535
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1/2 VWM16V
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SETCURR2
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TK63115B-G
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C1531
1u5
C1536
100n
C1537
100p
C1532
1u5
C1533
1u5
C1534
1u5
C5,C6,E5,E6,E7,F4,F5,F6,F7,G5,G6= GND
B1,C1= VTOUCH
G4,G5= GND
GND

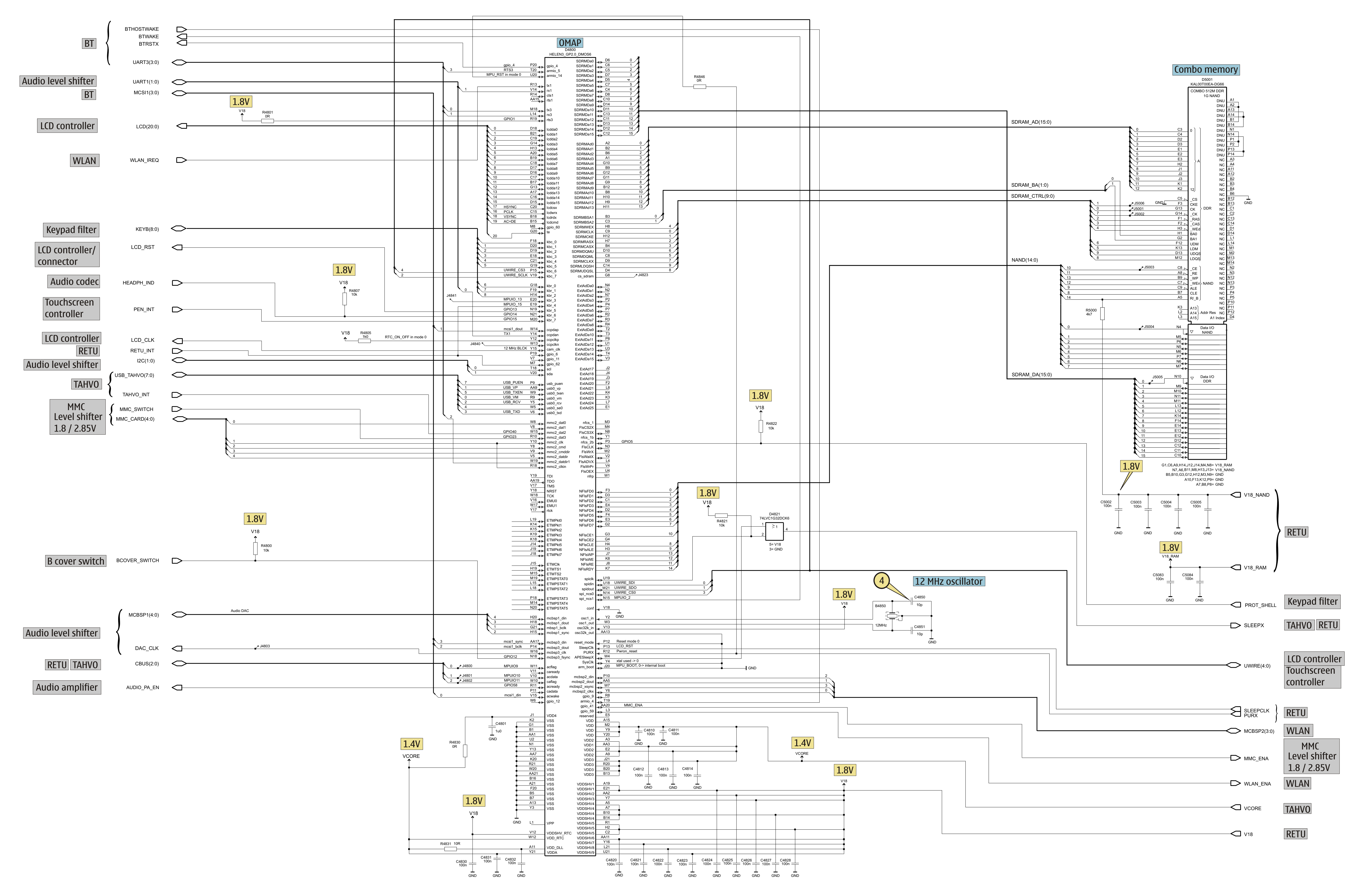


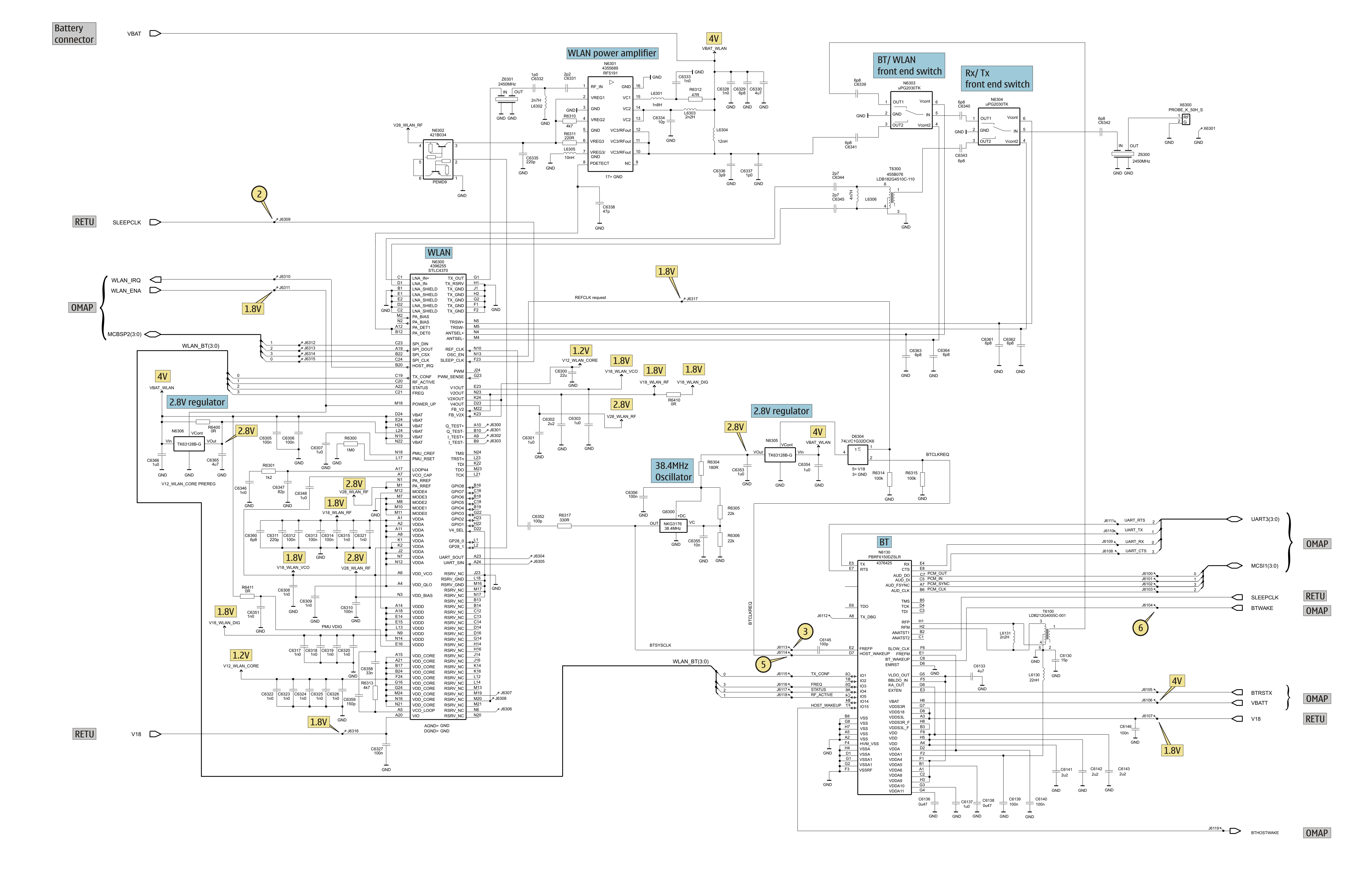
RETU
VBAT
V18
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MMC
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LP3928TLX-1828_NOPB
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R4750
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R4760
10k
R4741
100k
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100k
J4741
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10n
C4731
22u
C4732
22u
C4750
100n
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DMTXD
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DPRXD2
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X2000
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RETU
SCK

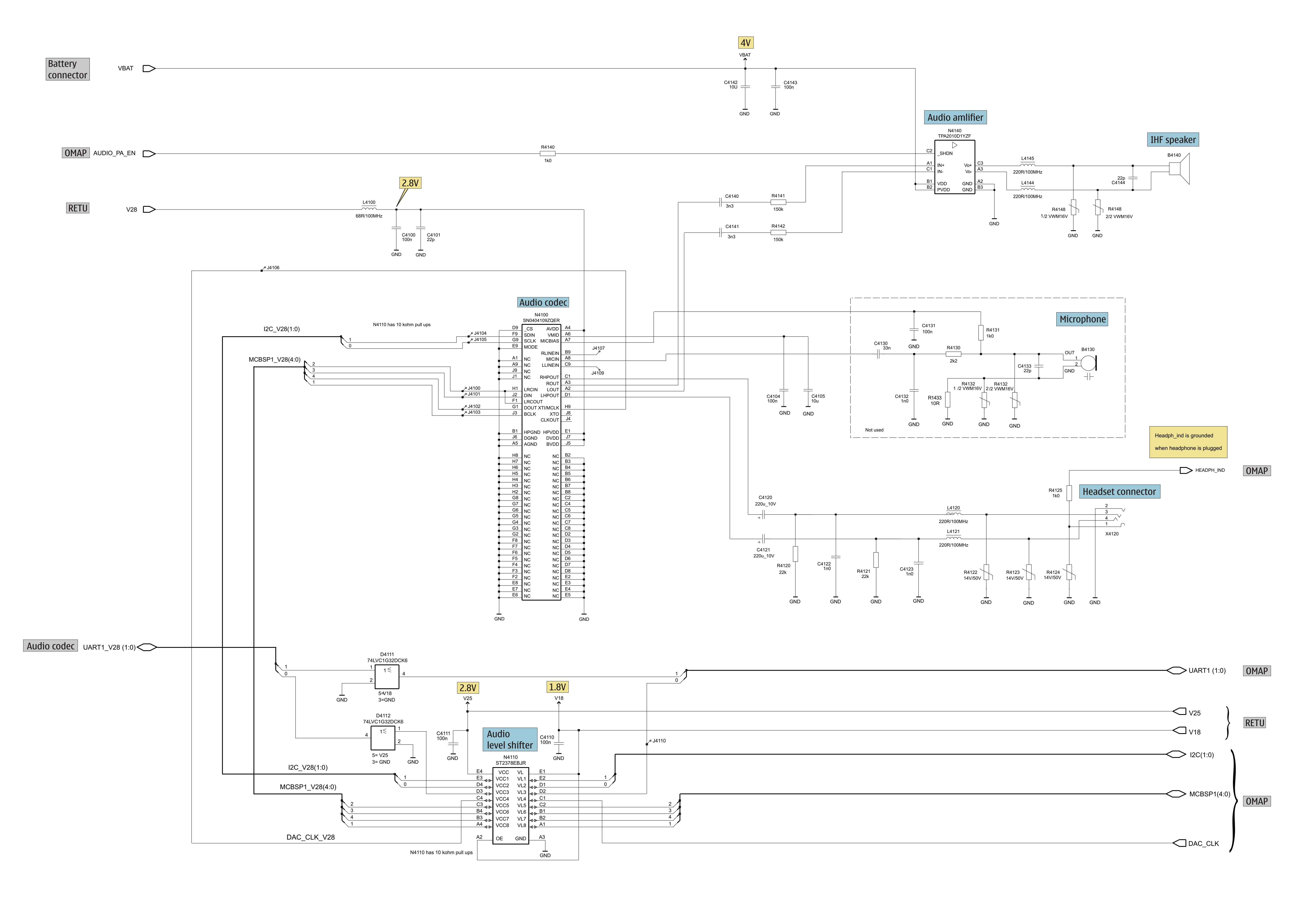

LED driver
Audio codec
WLAN
PA
V28
Battery cover open switch
2.8V
N1120
SH248CSP
BCOVER
OMAP
BTEMP
1.35V
RETU
D1420
RETU_3.02
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1.8V
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WLAN
TAHVO
LCD connector
MMC
OMAP
Audio
Battery connector
BSI
4V
J1425
Keypad filter
PWRONX
TAHVO
VCHARADC
0.5V if charger connected
32 kHz oscillator
B1420
32.768kHz
V18_RAM
Combo memory
V25
Audio level shifter
TAHVO
CHSWSTAT
1.8V
PURX
OMAP
TAHVO
OMAP
TAHVO
CBUS(2:0)
CBUSCLK
CBUSDATA
CBUSENX
RETU_INT
OMAP
RSTX
TAHVO
OMAP
SLEEPX
SCK
J2000
SLEEPCLK
OMAP
TAHVO
WLAN
Battery connector
VBAT
RTC back up battery
G1401
4707559
1.8V regulator
N1480
LP2985ITLX-1.8_NOPB
V18_NAND
Combo memory



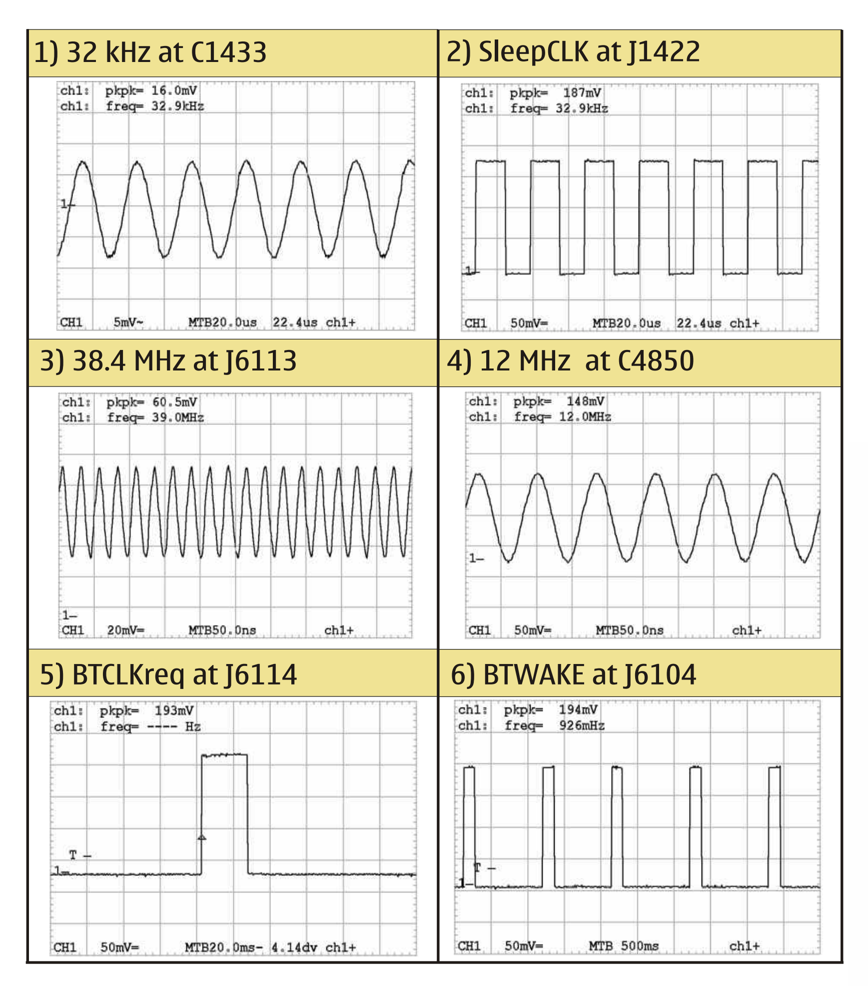
MMC
Level shifter
WLAN
BT
1.8V regulator
PA
LCD controller
RETU
VBAT
Battery
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J1111
J1112
X1110
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BSI
RETU
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R1111
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C1111
27p
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C1314
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C1311
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C1312
10U
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N1310
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10uH
C1310
22u
SLAVEPU
MASTERPD1
MASTERPD2
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DPRXD
DMTXD
Charger
connector
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2A
L1100
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1PMT16AT3
X1100
VCHRG
C1102
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C1103
27p
C1104
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Charger connected=0.5V
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USB_SE0
USB_TXD
USB_RCV
USB_VP
USB_VM
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C1320
1u0
J1323
J1324
J1329
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R1120
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L1330
22uH
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PWMTAHVO
C1330
4u7
C1331
4u7
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USB connector
VBUS
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R1332
56R
SETCURR1
R1333
33R
N1336
LMV321M7X_NOPB
R1335
1k0
V1336
2SC5658QRS
SETCURR2
2.8V
V28
V28
RETU
2= GND
5= V28
R1334
100k
C1336
100n
R1336
33R


OMAP
D4800
HELEN3_GP2.0_DMOS6
Combo memory
D5001
KAL00T00EA-DG66
BT
Audio level shifter
BT
LCD controller
WLAN
Keypad filter
LCD controller/ connector
Audio codec
Touchscreen controller
LCD controller
RETU
Audio level shifter
TAHVO
MMC Level shifter 1.8 / 2.85V
B cover switch
Audio level shifter
RETU
TAHVO
Audio amplifier
12 MHz oscillator
RETU
Keypad filter
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RETU
LCD controller Touchscreen controller
RETU
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WLAN
TAHVO
RETU
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1.4V
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V18_RAM
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SLEEPCLK
PURX
MCBSP2(3:0)
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WLAN_ENA
SDRAM_AD(15:0)
SDRAM_BA(1:0)
SDRAM_CTRL(9:0)
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SDRAM_DA(15:0)
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BTWAKE
BTRSTX
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KEYB(8:0)
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HEADPH_IND
PEN_INT
LCD_CLK
RETU_INT
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TAHVO_INT
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MMC_CARD(4:0)
BCOVER_SWITCH
MCBSP1(4:0)
DAC_CLK
CBUS(2:0)
AUDIO_PA_EN


Battery connector
VBAT
WLAN power amplifier
4V
BT/ WLAN front end switch
Rx/ Tx front end switch
RETU
SLEEPCLK
WLAN
OMAP
WLAN_IRQ
WLAN_ENA
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WLAN_BT(3:0)
2.8V regulator
38.4MHz Oscillator
BT
UART3(3:0)
MCSI1(3:0)
SLEEPCLK
BTWAKE
BTRSTX
VBATT
V18
BTHOSTWAKE
1.8V
1.2V
2.8V



Battery connector
VBAT
4V
OMAP
AUDIO_PA_EN
Audio amlifier
N4140
TPA2010D1YZF
IHF speaker
B4140
RETU
V28
2.8V
L4100
68R/100MHz
Audio codec
N4100
SN0404109ZQER
N4110 has 10 kohm pull ups
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MCBSP1_V28(4:0)
Microphone
B4130
Not used
Headph_ind is grounded
when headphone is plugged
HEADPH_IND
Headset connector
X4120
UART1_V28 (1:0)
D4111
74LVC1G32DCK6
D4112
74LVC1G32DCK6
Audio level shifter
N4110
ST2378EBJR
1.8V
V25
V18
UART1 (1:0)
I2C(1:0)
MCBSP1(4:0)
DAC_CLK
DAC_CLK_V28



V28_WLAN_RF=2.8V

V12_WLAN_CORE=1.2V

V18_RAM=1.8V

V18_NAND=1.8V

V18_WLAN_VCO_RF=1.8V

VBat_WLAN=4V

V18=1.8V

V18_WLAN_RF=1.8V

Vcore=1.4V

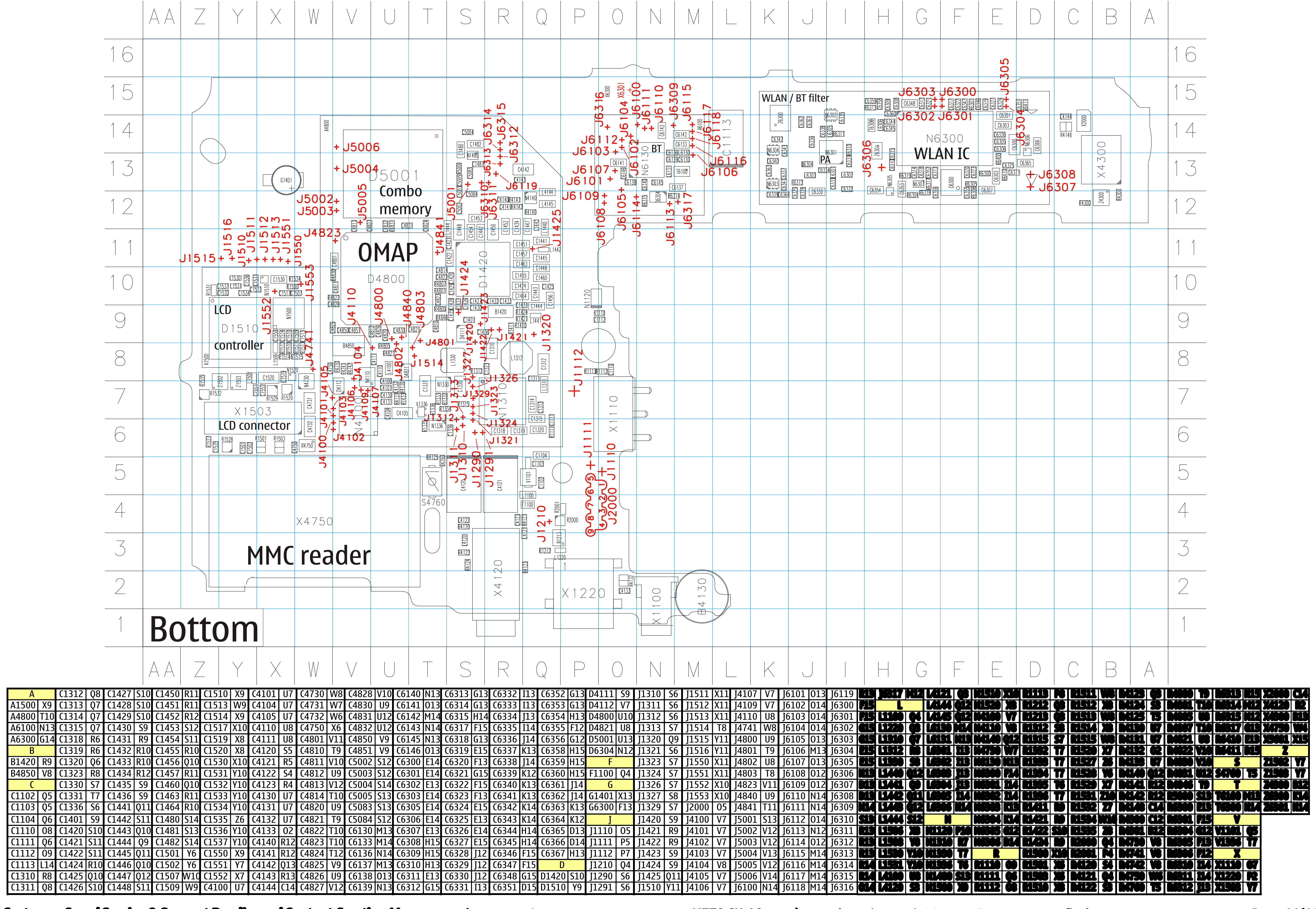
VBat=4V

VCHRGADC=0.5V

V28=2.8V

VCHRG=6V

USB connected=5V



A		C1312	Q8	C1427	S10	C1450	R11	C1510	X9	C4101	U7	C4730	W8	C4828	V10	C6140	N13
A1500	X9	C1313	Q7	C1428	S10	C1451	R11	C1513	W9	C4104	U7	C4731	W7	C4830	U9	C6141	O13
A4800	T10	C1314	Q7	C1429	S10	C1452	R12	C1514	X9	C4105	U7	C4732	W6	C4831	U12	C6142	M14
A6100	N13	C1315	Q7	C1430	S9	C1453	S12	C1517	X10	C4110	U8	C4750	X6	C4832	U12	C6143	N14
A6300	G14	C1318	R6	C1431	R9	C1454	S11	C1519	X8	C4111	U8	C4801	V11	C4850	V9	C6145	N13
B		C1319	R6	C1432	R10	C1455	R10	C1520	X8	C4120	S5	C4810	T9	C4851	V9	C6146	O13
B1420	R9	C1320	Q6	C1433	R10	C1456	Q10	C1530	X10	C4121	R5	C4811	V10	C5002	S12	C6300	E14
B4850	V8	C1323	R8	C1434	R12	C1457	R11	C1531	Y10	C4122	S4	C4812	U9	C5003	S12	C6301	E14
C		C1330	S7	C1435	S9	C1460	Q10	C1532	Y10	C4123	R4	C4813	V12	C5004	S14	C6302	E13
C1102	Q5	C1331	T7	C1436	S9	C1463	R11	C1533	Y10	C4130	U7	C4814	T10	C5005	S13	C6303	E14
C1103	Q5	C1336	S6	C1441	Q11	C1464	R10	C1534	Y10	C4131	U7	C4820	U9	C5083	S13	C6305	E14
C1104	Q6	C1401	S9	C1442	S11	C1480	S14	C1535	Z6	C4132	U7	C4821	T9	C5084	S12	C6306	E14
C1110	O8	C1420	S10	C1443	Q10	C1481	S13	C1536	Y10	C4133	O2	C4822	T10	C6130	M13	C6307	E13
C1111	Q6	C1421	S11	C1444	Q9	C1482	S14	C1537	Y10	C4140	R12	C4823	T10	C6133	M14	C6308	H15
C1112	O9	C1422	S11	C1445	Q11	C1501	Y6	C1550	X9	C4141	R12	C4824	T12	C6136	N14	C6309	H15
C1113	L14	C1424	R10	C1446	Q10	C1502	Y6	C1551	Y7	C4142	Q13	C4825	V9	C6137	M13	C6310	H13
C1310	R8	C1425	Q10	C1447	Q12	C1507	W10	C1552	X7	C4143	R13	C4826	U9	C6138	O13	C6311	E13
C1311	Q8	C1426	S10	C1448	S11	C1509	W9	C4100	U7	C4144	C14	C4827	V12	C6139	N13	C6312	G15

C6313	G13	C6332	I13	C6352	G13	D4111	S9	J1310	S6	J1511	X11	J4107	V7	J6101	O13	J6119	R13
C6314	G13	C6333	I13	C6353	G13	D4112	V7	J1311	S6	J1512	X11	J4109	V7	J6102	O14	J6300	F15
C6315	H14	C6334	J13	C6354	H13	D4800	U10	J1312	S6	J1513	X11	J4110	U8	J6103	O14	J6301	F15
C6317	F15	C6335	I14	C6355	F12	D4821	U8	J1313	S7	J1514	T8	J4741	W8	J6104	O14	J6302	G15
C6318	G13	C6336	J14	C6356	G12	D5001	U13	J1320	Q9	J1515	Y11	J4800	U9	J6105	O13	J6303	G15
C6319	E15	C6337	K13	C6358	H15	D6304	N12	J1321	S6	J1516	Y11	J4801	T9	J6106	M13	J6304	E15
C6320	F13	C6338	J14	C6359	H15	F		J1323	S7	J1550	X11	J4802	U8	J6107	O13	J6305	E15
C6321	G15	C6339	K12	C6360	H15	F1100	Q4	J1324	S7	J1551	X11	J4803	T8	J6108	O12	J6306	H13
C6322	F15	C6340	K13	C6361	J14	G		J1326	S7	J1552	X10	J4823	V11	J6109	O12	J6307	D13
C6323	F13	C6341	K13	C6362	J14	G1401	X13	J1327	S8	J1553	X10	J4840	U9	J6110	N14	J6308	D13
C6324	E15	C6342	K14	C6363	K13	G6300	F13	J1329	S7	J2000	O5	J4841	T11	J6111	N14	J6309	M14
C6325	E13	C6343	K14	C6364	K12	J		J1420	S9	J4100	V7	J5001	S13	J6112	O14	J6310	S13
C6326	E14	C6344	H14	C6365	D13	J1110	O5	J1421	R9	J4101	V7	J5002	V12	J6113	N12	J6311	R13
C6327	E15	C6345	H14	C6366	D14	J1111	P5	J1422	R9	J4102	V7	J5003	V12	J6114	O12	J6312	R13
C6328	J12	C6346	F15	C6367	H13	J1112	P7	J1423	S9	J4103	V7	J5004	V13	J6115	M14	J6313	R13
C6329	J12	C6347	F15	D		J1210	Q4	J1424	S9	J4104	V8	J5005	V12	J6116	M14	J6314	R14
C6330	J12	C6348	G15	D1420	S10	J1290	S6	J1425	Q11	J4105	V7	J5006	V14	J6117	M14	J6315	R14
C6331	I13	C6351	D15	D1510	Y9	J1291	S6	J1510	Y11	J4106	V7	J6100	N14	J6118	M14	J6316	O14

J6317	M12	L4121	Q3	N1510	X10	R1113	P8	R1511	W8	R4123	Q3	R4800	T9	R6313	N15	X2000	C14
L		L4144	Q12	N1520	X8	R1212	Q8	R1512	X8	R4124	S3	R4801	T10	R6314	M12	X4120	R2
L1100	Q4	L4145	Q12	N4100	V7	R1213	Q8	R1513	W8	R4125	T5	R4805	U8	R6315	M12	X4300	B13
L1220	Q8	L6130	M14	N4110	V8	R1312	S8	R1514	X8	R4130	U7	R4807	T10	R6317	G13	X4750	W4
L1310	Q7	L6131	N13	N4140	Q12	R1315	S7	R1515	W8	R4131	U7	R4821	U8	R6410	E13	X5001	X15
L1312	R6	L6301	I13	N4730	W7	R1332	T7	R1520	X7	R4132	O2	R4822	V10	R6411	D15	Z	
L1330	S8	L6302	I13	N6130	N13	R1333	T7	R1527	Z6	R4133	U7	R4830	V10	S		Z1502	Y7
L1440	Q12	L6303	J13	N6300	F14	R1334	T7	R1528	Y6	R4140	Q12	R4831	U12	S4700	T5	Z1503	Y7
L1441	Q9	L6304	J13	N6301	I14	R1335	T6	R1529	X7	R4141	R12	R4846	T9	T		Z4300	B12
L1442	Q11	L6305	I14	N6302	I14	R1336	T7	R1531	Z10	R4142	R12	R5000	S13	T6100	M13	Z6300	K14
L1443	Q12	L6306	N14	N6303	K13	R1411	R9	R1532	Z7	R4143	C14	R6300	E13	T6300	N14	Z6301	N14
L1444	S12	N		N6304	K14	R1421	R9	R1534	W10	R4300	C12	R6301	F15	V			
L1506	X8	N1120	P10	N6305	G12	R1422	S10	R1535	Z8	R4301	B12	R6304	G12	V1101	Q5		
L1508	Y8	N1310	R7	N6306	D14	R1424	R9	R2000	Q4	R4730	V8	R6305	F13	V1336	T7		
L1530	Y10	N1330	T7	R		R1500	X10	R2001	P4	R4741	V8	R6306	F12	X			
L1531	Y10	N1336	T6	R1110	O9	R1501	X6	R4120	S4	R4742	V8	R6310	I14	X1110	O7		
L4100	U8	N1400	S13	R1111	Q6	R1503	X6	R4121	Q4	R4750	W6	R6311	I14	X1220	P2		
L4120	S3	N1500	X9	R1112	O8	R1510	X8	R4122	S3	R4760	T5	R6312	J13	X1503	Y7		